



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/561,978	12/22/2005	Gerhard Winiger	11201/20	1621
23838	7590	03/31/2008	EXAMINER	
KENYON & KENYON LLP			ITALIANO, ROCCO	
1500 K STREET N.W.				
SUITE 700			ART UNIT	PAPER NUMBER
WASHINGTON, DC 20005			4156	
			MAIL DATE	DELIVERY MODE
			03/31/2008	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/561,978	WINIGER, GERHARD	
	Examiner	Art Unit	
	ROCCO ITALIANO	4156	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1) Responsive to communication(s) filed on 22 December 2005.
 2a) This action is **FINAL**. 2b) This action is non-final.
 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4) Claim(s) 11-28 is/are pending in the application.
 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
 5) Claim(s) _____ is/are allowed.
 6) Claim(s) 11-28 is/are rejected.
 7) Claim(s) _____ is/are objected to.
 8) Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9) The specification is objected to by the Examiner.
 10) The drawing(s) filed on 22 December 2005 is/are: a) accepted or b) objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 a) All b) Some * c) None of:
 1.) Certified copies of the priority documents have been received.
 2.) Certified copies of the priority documents have been received in Application No. _____.
 3.) Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)	4) <input type="checkbox"/> Interview Summary (PTO-413)
2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)	Paper No(s)/Mail Date. _____ .
3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)	5) <input type="checkbox"/> Notice of Informal Patent Application
Paper No(s)/Mail Date <u>12/22/2005</u> .	6) <input type="checkbox"/> Other: _____ .

DETAILED ACTION

Drawings

The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the inlet and discharge pipeline and bores must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as “amended.” If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either “Replacement Sheet” or “New Sheet” pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Objections

Claim 1 is objected to because of the following informalities: The term “close” should be substituted for “closes”. Appropriate correction is required.

Claims 15-17 are objected to because of the following informalities: It appears that the term “Severs” in line 3 of each claim is a typographical error. For the purpose of examination it is interpreted by the examiner that the term “levers” is what the applicant intended. Appropriate correction is required.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claim 11 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. The limitation “provided with valves at the two ends” is unclear as to what feature is provided with valves at its two ends.

Claim 11 recites the limitation "the working chamber" in line 3. There is insufficient antecedent basis for this limitation in the claim.

Claim 11 recites the limitation "the inlet or discharge pipeline" in lines 4-5. There is insufficient antecedent basis for this limitation in the claim.

Claim 11 recites the limitation "the cross-hole" in lines 6-7. There is insufficient antecedent basis for this limitation in the claim.

Claim 11 recites the limitation "the two ends" in line 8. There is insufficient antecedent basis for this limitation in the claim.

Claim 11 recites the limitation "the working volumes" in line 12. There is insufficient antecedent basis for this limitation in the claim.

Claim 12 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. It is indistinct as to what feature "the end" is referring to.

Claim 12 recites the limitation "the valve lid", "the end" and "the conveying lever" in lines 2-4. There is insufficient antecedent basis for this limitation in the claim.

Claims 13-14 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. It is unclear as to the feature in which "the valve pairs are located laterally" from. Additionally, the limitation " the distance of the valve pairs that are located laterally reversed is decreases or increased for clearance adjustment. It is unclear as to what "the distance of the valve pairs" is being adjusted in respect to. Furthermore, the structural relationship encompassed by the limitation "laterally reversed" is unclear. The limitation "screwing in and out of which" is indistinct as to what structural feature is being manipulated "by screwing in and out."

Claims 13-14 recites the limitation "the pump lid" in lines 2-3 of each claim. There is insufficient antecedent basis for this limitation in the claim.

Claims 15-17 recites the limitation "their propelling levers" in line 3 of each claim. There is insufficient antecedent basis for this limitation in the claim.

Claims 19-22 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. The claims state that "the propelling rod can be connected directly to the cylinder under it". It is unclear as to what the applicant is referring to as "it".

Claim 19-22 recites the limitations "the propelling rods" and "the cylinder" in lines 3-4 of each claim. There is insufficient antecedent basis for these limitations in the claim.

Claim 23-28 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. The limitation "moving its propelling rods to its propelling levers" is unclear in regards to the relationship of movement that the applicant is intending.

Claims 23-28 recites the limitation "the discharge stroke" in lines 1-2 of each claim. There is insufficient antecedent basis for this limitation in the claim.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

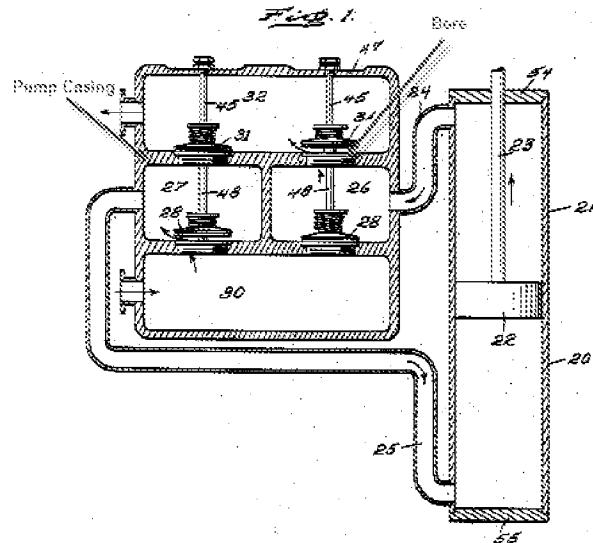
The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

As best understood claims 11-22 are rejected under 35 U.S.C. 103(a) as being unpatentable over J.W. Boakes, 2nd U.S. 2,752,862 and further in view of J Reichmann U.S. 517,589.

In regards to claim 11, Boakes discloses a double acting reciprocating pump (20). It can be seen in Fig.1 that a piston (22) is provided with in a working chamber (21) that is narrowed due to the relative movement of the piston (22). Boakes discloses further, two parallel bores, arranged parallel to the pump cylinder (21), and formed in the equivalent portion to what examiner is considering as the pump's casing (see Fig.1 label by the examiner for clarity). It may be understood from the illustration of Fig.1 that the bores serve as inlet and discharge pipelines in that they provide a passage for fluid flow. Fig. 1 shows that each bore is pierced by a valve rod (48), in which valves (28,

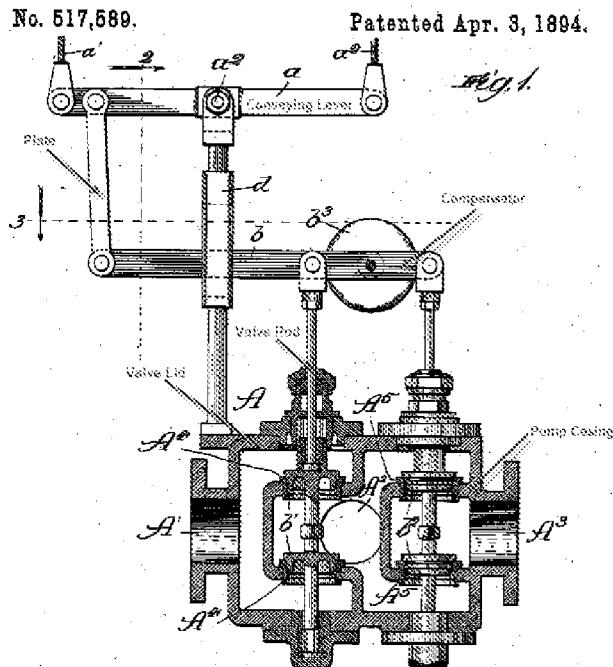
31) are provided at both ends of the rod (48). Boakes discloses that during the operation of the reciprocating pump, as the piston moves towards the end (54) of the pump cylinder, regarded by the examiner as an equivalent to an "extreme position" as indicated by the applicant, the valve (31) opens and valve (28) closes. Furthermore, when the piston has completed its stroke and moves in the opposite direction towards end (55), or the opposed extreme position, there is a reversal in the motion of each valve (see column 3, lines 51-68 and Fig.1).



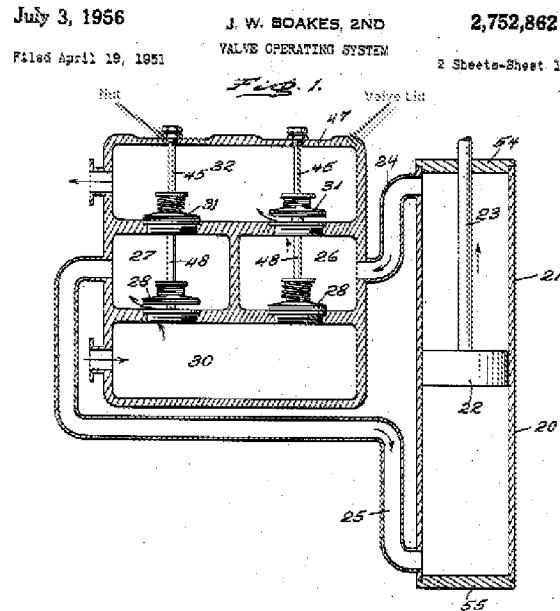
Boakes differs from the present invention, according to the applicant, in that the valves are not actuated by a positive control means but rather by the action of pressurized fluid. However, Reichmann teaches of a valve device in which a lever system is utilized in order to positively control the movement of valves between open and closed positions (see Fig. 1). Reichmann teaches that the valve device is utilized in order to seat an open valve and open a valve which was formerly closed (see lines 48-52). Based on the teaching according to Reichmann, it would be obvious to one of

ordinary skill in the art to modify the invention of Boakes with the teaching of Reichmann by incorporating a suitable lever system in order to attain a reciprocating pump in which the actuation of the valves is achieved more readily through the means of direct force via a lever system on the valves themselves which would ultimately allow for a quicker open/close cycle rather than depending on fluid pressure build up to actuate the valves. In regards to the limitation of claim 11 in that the piston is also connected to the lever whereby "after reaching the upper and lower extreme positions of the piston close the open valve and opens the closed valve" it is well known in the art the during the stroke of a piston, which induces pressure on a fluid in order to actuate a valve, it is at these upper and lower extreme positions, as described by the applicant, that fluid pressure is at a maximum or minimum to either open or close a valve in which the fluid pressure is in communication. Therefore one of ordinary skill would find it obvious to ensure that the valves were opened and closed at the commonly known piston positions by connecting the piston to the lever system and allowing for the valves to be instantly actuated when the piston is at the minimum and maximum stroke positions.

In regards to claim 12, Reichmann shows in the illustration in Fig. 1 valve rods (labeled by the examiner) which pierces the valves (b^1 and b^2), the pump casing (labeled by examiner) and the valve lid (labeled by examiner). It can be seen that the valves (b^1 and b^2) are connected to a lever (b), equivalent to that of a compensator as designated by the applicant, in which the lever (b) or compensator moveably connects the valve rods to conveying lever (a) by a plate (label by the examiner).



In regards to claim 13-14, Boakes discloses that valve rod (45) is threaded and it may be seen from Fig. 1 that a nut (labeled by the examiner) is provided at the end of the valve rod facing an equivalent structure to that of a valve lid (labeled by the examiner). Boakes discloses that the valve rod adjustably threads which meets the limitations of the claim as best understood (see column 3, lines 13-16 and Fig. 1).



With respect to claims 15-18 it can be seen in Fig. 1 that the reference according Reichmann has the ability to synchronously driving a plurality of piston pumps, according to Boakes in view of Reichmann, by coupling their propelling levers (a^1 and a^2) to a common piston rod. In regards to claims 19-22, the disclosure according to Boakes in view of Reichmann also provides the ability to allow for the vertical arrangement of the piston pumps.

With respect to claims 15-22, the limitations of these claims are interpreted as mere duplication of parts rendering no patentable significance since no new or unexpected result is produced (MPEP 2144.04). Furthermore, one of ordinary skill in the art would find it obvious to increase the number of piston pumps in order to increase the overall output of the device allowing for an increase in the amount of fluid that could be pumped.

Claims 23 -28 are rejected under 35 U.S.C. 103(a) as being unpatentable over J.W. Boakes, 2nd U.S. 2,752,862 in view of J Reichmann U.S. 517,589 as applied to claim 15 above, and further in view of Reed U.S. 3,597,120.

In regards to claim 23-28, Reed teaches of a reciprocating pump in which the discharge stroke of the pump may be regulated or modified by adjusting the position of actuators (36, 38) on the valve rod (35). Reed teaches that as the distance between actuators 36 and 38 is decreased, the stroke of the pump is shortened and less volume of fluid is transferred per stroke, additionally the opposite is true as the difference between actuators 36 and 38 is increased (see column 5, lines 40-46 and Fig.1). It is interpreted that Reed ultimately teaches that by moving the feature (40), the equivalent to that of the propelling rod as designated by the applicant, along a feature (35) similar to the applicant's propelling lever, adjustment of the pump stroke is achieved leading to the modification of the pumps discharge stroke. It would have been obvious to modify the disclosure according to Boakes in view of Reichmann and further in view of Reed in order to achieve a pump in which a variety of stroke configurations could be obtained in order to achieve a more versatile pumping apparatus.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to ROCCO ITALIANO whose telephone number is (571)270-3761. The examiner can normally be reached on Mon - Fri (Alt Fri Off) 9-5 EST..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Isabella can be reached on (571) 272-4749. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Dmitry Suhol/
Primary Examiner, Art Unit 3725

Rocco Italiano
Patent Examiner
AU 4156

R.I.
03/27/2008